UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB2000-0223

September 11, 2000

Mr. Bob Graham
State Conservationist
U.S. Department of Agriculture
Natural Resources Conservation Service
101 SW Main Street, Suite 1300
Portland, Oregon 97204-3221

Re: Formal Section 7 Consultation on the Effects of Proposed Harper Streambank Stabilization Project in Rock Creek watershed on Middle Columbia River Steelhead, John Day River Basin, Gilliam County, Oregon.

Dear Mr. Graham:

Enclosed is a biological opinion prepared by the National Marine Fisheries Service (NMFS) pursuant to Section 7 of the Endangered Species Act (ESA) on the effects of the proposed streambank stabilization project on Rock Creek (Gilliam County) in the John Day River Basin, Oregon. The NMFS concludes in this biological opinion that the proposed action is not likely to jeopardize the subject species or adversely modify critical habitat. As required by Section 7 of the ESA, NMFS included reasonable and prudent measures with non-discretionary terms and conditions that NMFS believes are reasonable and appropriate to minimize the impact of incidental take associated with this action.

Please direct any questions regarding this consultation to Ron Lindland of my staff in the Oregon State Branch Office at (503) 231-2315.

Sincerely,

Michael R Crouse
For William Stelle, Jr.
Regional Administrator

cc: Al Mauer, U.S. Fish and Wildlife Service
Tim Unterwegner, Oregon Department of Fish and Wildlife

Endangered Species Act - Section 7 Consultation

BIOLOGICAL OPINION

Proposed Streambank Stabilization Project Affecting
Middle Columbia River Steelhead in the Rock Creek (Gilliam County) Watershed

Lower John Day River

Agency: U.S. Department of Agriculture, Natural Resources Conservation Service

Consultation Conducted By: National Marine Fisheries Service
Northwest Region

Date Issued: September 11, 2000

Refer to: OSB2000-0223

TABLE OF CONTENTS

I. BACKGROUND

On August 4, 2000, the National Marine Fisheries Service (NMFS) received a letter, dated August 2, 2000, from the Natural Resources Conservation Service (NRCS) requesting formal consultation regarding the potential effects of a proposed streambank stabilization project in the Rock Creek (Gilliam County) watershed on the Middle Columbia River (MCR) steelhead and their designated critical habitat. The accompanying biological assessment (BA) described the proposed action and the environmental baseline in the action area, and addressed the effects of the action on MCR steelhead in Rock Creek. Rock Creek (Gilliam County) enters the John Day River near River Mile 22. The proposed project is located along the east bank of Rock Creek in T02S, R22E, Section 5 on the property of Richard Harper approximately 20 miles upstream from its mouth.

The MCR steelhead (*Onchorynchus mykiss*) was listed as threatened under the Endangered Species Act (ESA) by NMFS on March 25, 1999 (64 FR 14517). Critical habitat for MCR steelhead was designated on February 16, 2000 (65 FR 7764) including the John Day River, its tributaries, and adjacent riparian areas. The proposed action is within designated critical habitat for MCR steelhead in Rock Creek.

The objective of this biological opinion (Opinion) is to determine whether the subject action is likely to jeopardize the continued existence of MCR steelhead or result in the destruction or adverse modification of designated critical habitat for MCR steelhead.

II. PROPOSED ACTION

The proposed action is: 1) Placement of two or three rock barbs along a 100-foot long stretch of stream; 2) placement of seven alder trees (with rootwads attached if available) and 20 large rocks along a second 100-foot stretch of streambank; and, 3) installation of four different types of streambank stabilization materials along a third 240-foot section. Four different types of bioengineering methods for treating cut-banks will be employed along the 240-foot section. In Area 1 of the 240-foot section, the streambank will not be recontoured; rock will be placed at the toe of the cut-bank and interspersed with willow plantings, and alder trees with rootwads attached will be placed along the foot of an 80-foot section of cut-bank. In Area 2, a 30-foot section of streambank will be recontoured to a 1:2 slope and a 12-inch diameter wattle[1] and 4-inch thick mattress consisting of interwoven willows will be placed. The wattle and mattress will be held in place with wooden stakes and 10-12 gauge galvanized wire. In Area 3, approximately 65 feet of streambank will be recontoured to 2:1 slope, a fiberschine roll (coconut-fiber) placed at the toe of the slope, erosion control fabric placed over the remainder of the slope, and planted with native grasses and willows. In Area 4, the treatment will be as in Area 1, except the streambank will be recontoured to a 2:1 slope and the streambank will be planted with 5 to 10-inch diameter willow bundles and native grasses, and the willow bundles and grass-seeded areas overlain with erosion control fabric. The action is being funded by NRCS. All instream work would be

[1]Poles intertwined with twigs or branches for use in construction of fences or walls.

completed during the Oregon Department of Fish and Wildlife's (ODFW) preferred in-water work period for Rock Creek, which is July 15- September 30. Equipment used to perform the work will operate from the existing road and the streambank and will not enter the stream. All areas disturbed by construction activities at project sites will be replanted with native vegetation. Sediment control structures may include, but will not be limited to, silt fences, straw bales, jute mats, and seeding with native plant species.

III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

The listing status and biological information for MCR steelhead are described in Busby et al. (1996) and NMFS (1997). The NMFS designated critical habitat for MCR steelhead on February 16, 2000 (65 FR 7764). The adjacent riparian zone is included in this critical habitat designation. The proposed action discussed in this Opinion is within the area designated as critical habitat for MCR steelhead.

Rock Creek provides spawning, rearing, and migratory habitat for both adult and juvenile life stages of MCR steelhead. Juvenile MCR steelhead are expected to be rearing in the project area. Essential features of the adult spawning, juvenile rearing, and adult and juvenile migratory habitat for the species are: 1) Substrate, 2) water quality, 3) water quantity, 4) water temperature; 5) water velocity, 6) cover/shelter, 7) food (juvenile only), 8) riparian vegetation, 9) space, and 10) safe passage conditions (50 CFR 226). The essential features that the proposed project may affect are substrate, water quality, and riparian vegetation resulting from construction activities.

IV. EVALUATING PROPOSED ACTION

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the: 1) Definition of the biological requirements and current status of the listed species; and 2) evaluation of the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: 1) Collective effects of the proposed or continuing action; 2) the environmental baseline; and 3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether

habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will destroy or adversely modify critical habitat it must identify any reasonable and prudent alternatives available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential biological elements necessary for juvenile and adult migration, spawning, and rearing of the MCR steelhead under the existing environmental baseline.

A. Biological Requirements

The first step the NMFS uses when applying the ESA section 7(a)(2) to listed steelhead is to define the species' biological requirements that are most relevant to each consultation. The NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list MCR steelhead and designate MCR critical habitat for ESA protection and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for MCR steelhead to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful adult and juvenile migration, spawning and rearing. MCR steelhead survival in the wild depends upon the proper functioning of certain ecosystem processes, including habitat formation and maintenance. Restoring functional habitats depends largely on allowing natural processes to increase their ecological function, while at the same time removing adverse impacts of current practices. In conducting analyses of habitat-altering actions, NMFS defines the biological requirements in terms of a concept called Properly Functioning Condition (PFC) and applies a "habitat approach" to its analysis (NMFS 1999). The current status of the MCR steelhead, based upon their risk of extinction, has not significantly improved since the species was listed.

B. Environmental Baseline

The environmental baseline is an analysis of the effects of past and present human and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The action area is defined as, "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). The action area for this

consultation, therefore, includes the streambed and streambank of Rock Creek within the area of disturbance at the project site and downstream to the extent of visible short-term turbidity increases resulting from the project work.

The current population status and trends for MCR steelhead are described in Busby et al. (1996). The BA, citing Ken Rutherford of ODFW, states that Rock Creek is probably used by steelhead for spawning.

Environmental baseline conditions within the action area were evaluated for the subject action at the project site and watershed scales. This evaluation was based on application of the "matrix of pathways and indicators" (MPI) described in *Making Endangered Species Act Effects Determinations for Individual or Grouped Actions at the Watershed Scale*(NMFS 1996). This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species. An assessment of the essential features of MCR steelhead critical habitat is obtained by using the MPI process to evaluate whether aquatic habitat is properly functioning.

In the Rock Creek watershed, the NRCS, through use of the MPI, determined that water temperature, sediment, nutrients, habitat access, substrate, large woody debris, pool frequency, pool quality, width/depth ratio, streambank condition, off-channel habitat, and peak/base flow were rated as functioning "at risk." Riparian areas along Rock Creek were rated as "not properly functioning."

V. ANALYSIS OF EFFECTS

A. Effects of Proposed Action

The effects determination on habitat parameters in the BA was made using a method for evaluating current aquatic conditions (the environmental baseline) and predicting effects of the action on them. This process is described in the document *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). This assessment method was designed for the purpose of providing adequate information in a tabular form in BAs for NMFS to determine the effects of actions subject to ESA consultation. The effects of the actions are expressed in terms of the expected effect (restore, maintain, degrade) on each of 16 aquatic habitat factors in the action area, as described in the "checklist for documenting environmental baseline and effects of the action" (checklist) completed for each action and watershed. The results of the completed checklist for the action provides a starting point for determining the overall effect of the action on the environmental baseline in the action area.

Over the long term, the proposed project is expected to help restore streambank stability at the project site and reduce potential for sedimentation at the site and downstream. Once willow plantings mature they are expected to increase shade at the project site. At the watershed scale, all aquatic habitat indicators would be at least maintained.

In-water work will be needed to place the rock barbs, rootwads, and approximately 20 large rocks. This in-water work will result in disturbance of stream substrate and a temporary increase in stream turbidity. The temporary increase in stream turbidity could result in temporarily reduced feeding efficiency for juvenile MCR steelhead. There is also the possibility that placement of these materials by the excavator could kill or injure juvenile MCR steelhead. Direct mortality is expected to be minimal, because juvenile fish will likely avoid the equipment and can move freely upstream or downstream from the project sites.

Over the long term the proposed streambank stabilization project is expected to reduce sedimentation from the currently existing cut-banks. Willow plantings will increase stream shade. Installation of the rock barbs is expected to create some additional pool habitat. Placement of the large rocks and rootwads will increase stream channel complexity.

B. Cumulative Effects

"Cumulative effects" are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area for this consultation includes the streambed and streambank of Rock Creek within the area of disturbance at the project site and downstream to the extent of visible short-term turbidity increases resulting from the project work. NMFS is not aware of any specific future actions which are reasonably certain to occur on non-Federal lands within the Rock Creek watershed.

VI. CONCLUSION

NMFS has determined that, when the effects of the streambank stabilization project addressed in this Opinion are added to the environmental baseline and cumulative effects occurring in the action area, it is not likely to jeopardize the continued existence of MCR steelhead. Additionally, NMFS concludes that the subject action would not cause adverse modification or destruction of designated critical habitat for MCR steelhead. NMFS believes that the proposed action would cause a minor, short-term degradation of anadromous salmonid habitat due to sediment impacts from construction. These effects will be off set in the long-term through the habitat enhancement activities. Although direct mortality from this project could occur during in-water work, it is not expected, and the level of mortality would be minimal and would not result in jeopardy.

These conclusions are based on the following considerations: 1) All in-water work will be completed during ODFW's preferred in-water work period of July 1-September 30; 2) equipment used to perform the work will operate from existing roads and from the streambank; 3) all disturbed areas will be planted with native grasses, shrubs, or trees upon completion of construction work; 4) best management practices will be implemented to minimize transport of sediment into the stream and to areas downstream from the project site both during and after construction; and (5) the net effect of the

proposed action is expected to be the maintenance and restoration of functional MCR steelhead habitat conditions.

VII. CONSERVATION RECOMMENDATIONS

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. The NMFS has no additional conservation recommendations regarding the action addressed in this Opinion.

VIII. REINITIATION OF CONSULTATION

Reinitiation of consultation is required if: 1) The action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this biological opinion; 2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or, 3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

IX. REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this opinion in addition to the BA and additional information requested by NMFS and provided by the NRCS.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I. V. Lagomarsino. 1996. Status Review of West Coast Steelhead from Washington, Idaho, Oregon, and California. NOAA Technical Memorandum NMFS-NWFSC-27. August.

National Marine Fisheries Service (NMFS). 1996. Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale. NMFS, Environmental and Technical Services Division, Habitat Conservation Branch, 525 NE Oregon Street, Portland, Oregon.

National Marine Fisheries Service (NMFS). 1997. Status Review Update for Deferred and Candidate ESUs of West Coast Steelhead. December.

National Marine Fisheries Service (NMFS). 1999. Endangered and Threatened Species: Threatened Status

for Two ESUs of Steelhead in Washington and Oregon. Federal Register. Vol. 64, No. 57, pages 14517-14528. Final Rule. March 25.

National Marine Fisheries Service (NMFS). 1999. Endangered and Threatened Wildlife and Plants; Definition of "Harm." Federal Register. Vol. 64, No. 215, pages 60727-60731. Final Rule. November 8.

National Marine Fisheries Service (NMFS). 1999. The Habitat Approach: Implementation of Section

7 of the Endangered Species Act fo Actions Affecting the Habitat of Pacific Anadromous Salmonids. Guidance memorandum from Assistant Regional Administrators for Habitat Conservation and Protected Resources to staff. 3 pages. August. NMFS, 525 NE Oregon Street, Suite 500, Portland, Oregon 97232-2737.

National Marine Fisheries Service (NMFS). 2000. Designated Critical Habitat: Critical Habitat for 19 Evolutionarily Significant Units of Salmon and Steelhead in Washington, Oregon, Idaho, and California. Federal Register. Vol. 65, No. 32, pages 7764-7787. Final Rule. February 16.

X. INCIDENTAL TAKE STATEMENT

Section 4 (d) and Section 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering (64 FR 60727; November 8, 1999). Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of threatened species. If necessary, it also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

Amount or Extent of Take

The NMFS anticipates that the subject action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of MCR steelhead. Some minimal level of incidental take is expected to result from direct mortality or injury to juvenile MCR steelhead during rock and alder tree (rootwad) placement and excavation in the stream channel. The temporary increase in stream turbidity could result in temporarily reduced feeding efficiency for juvenile MCR steelhead. Direct mortality is expected to be minimal, because juvenile MCR steelhead are able to avoid instream construction activities. Effects from turbidity are also expected to be minimal because turbidity levels will quickly return to pre-construction levels once instream work is completed. Because of the inherent biological characteristics of aquatic species such as MCR steelhead, however, the likelihood of discovering take attributable to this action is very limited. Effects of actions such as that addressed in this Opinion are largely unquantifiable in the short term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, although NMFS expects some incidental take to occur

(primarily through harassment) due to the action covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take of listed fish at any life stage.

A. Effect of the Take

In this Opinion, NMFS has determined that the level of anticipated take is not likely to result in jeopardy to MCR steelhead or to destroy or adversely modify designated critical habitat for MCR steelhead when the reasonable and prudent measures are implemented.

B. Reasonable and Prudent Measures

The NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize the likelihood of take of MCR steelhead resulting from the action covered by this Opinion. The NRCS and/or their contractors shall:

1. Minimize the likelihood of incidental take resulting from in-water work required to complete the project addressed in this Opinion.
2. Minimize the likelihood of incidental take and impacts on critical habitat resulting from erosion and chemical pollution associated with these projects.
3. Minimize the likelihood of incidental take and impacts on critical habitat resulting from loss of riparian vegetation in the project area.

C. Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the NRCS and/or their contractors must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1, above, the NRCS and/or their contractors shall:

    a. Complete all work below the ordinary high water line within ODFW's in-water work period for Rock Creek (July 15- September 30). Any extensions of the in-water work period will first be approved by and coordinated with ODFW and NMFS prior to implementation.

    b. Operate equipment used to perform the construction work from existing roads or the streambank (equipment will not enter the active stream).

2. To implement reasonable and prudent measure #2, above, the NRCS and/or their contractors shall:

a. Implement appropriate sediment control measures (e.g. silt fences, straw bales) to minimize sediment transport into the stream channel and downstream from the project sites.

b. Locate areas for fuel storage and servicing of construction equipment and vehicles at least 150 feet away from any water body. Appropriate spill containment materials shall be made available at the project site.

c. Monitor the success of erosion control measures at the project site daily during implementation of the project and on at least three occasions after completion of the project (e.g. one month, six months, and one year), or more often if necessary to minimize sedimentation to the stream.

3. To implement reasonable and prudent measure #3, above, the NRCS and/or their contractors shall:

a. Minimize disturbance of existing native vegetation at the project site. Where possible, native vegetation will be clipped by hand so that roots are left intact.

b. Reseed and replant all disturbed areas resulting from construction activities at the project sites, where soils are appropriate for a reasonable expectation of success of the plantings, with native grasses, shrubs, and trees.

c. Monitor the success of plantings at the project site on at least three occasions (e.g. one month, six months, and one year), or more often if necessary, after completion of the project.

d. Replace failed plantings, if replacement would potentially result in success, or implement alternative measures.

e. Within one year of completion of the project, the NRCS shall provide a written report that references this biological opinion. The report will describe the dates on which work occurred, photographs of the completed work, and the results of monitoring the erosion control measures and planting success. Send the completed report to: Ron Lindland, Oregon State Branch, Habitat Conservation Division, National Marine Fisheries Service, 500 NE Oregon Street, #500, Portland, Oregon 97232-2737.